

REMARKS

A. Background

Claims 8-25 were pending in the application at the time of the Office Action. All of the pending claims are rejected as being obvious over cited art. By this response applicant has amended claims 8-14 and 17-24; and added new claims 26-31. As such, claims 8-31 are presented for the Examiner's consideration in light of the following remarks, with claims 8, 20, 22, and 24 being independent.

B. Proposed Claim Amendments

Applicant has herein amended claims 8-14 and 17-24 and added new claims 26-31 to further clarify, more clearly define, and/or broaden the claimed inventions to expedite receiving a notice of allowance. For example, independent claims 8, 20, 22, and 24 have been amended to clarify that the identical advertisements are broadcast over an IP network using IP Network TTL protocol so as to spoof the network and make it appear to the network that all of the identical advertisements are being played out at all of the target IP addresses when in actuality only a subset of the identical advertisements are being played out at each target IP address based on the initial TTL values of the identical advertisements.

New claims 26-31 recite further limitations that:

- i. the network/consumer interface devices comprise set top boxes (claim 26),
- ii. the audience profiles are network or carrier hosted for subsequent deployment in playing out advertisements or personalized content on a selective basis in the IP network environment (claim 27), and
- iii. the audience profiles are based solely on audience viewing data accumulated by the interrogator (claims 28-31).

Other claim amendments have been made to clarify the claims and to remedy formal matters. The amendments to the claims are supported throughout the specification and drawings. In view of the foregoing, applicant submits that the amendments to the claims do not introduce new matter and entry thereof is respectfully requested.

Applicant notes that embodiments of the present invention are directed to delivery of targeted advertisements as well as profiling and analysis of the viewing habits of individual audience members in conjunction with content providers. As a result, embodiments of the

present invention can be used as an end-to-end system. Furthermore, this allows for the capability to engage with present network and carrier architectures in a novel and non-obvious manner to playout the content and advertisements. As a result, targeting advertisements can be performed without making significant changes to present network and carrier architectures.

C. Claim Rejections based on 35 U.S.C. 103

1. Rejection based on Eldering/Eldering2/Eldering3/Kepecs/Hermann combination

Paragraphs 4-5 on pages 4-25 of the Office Action reject claims 8, 10, 12, 13 and 17-25¹ under 35 U.S.C. § 103(a) as being obvious over U.S. Publication No. 2004/0148625 to Eldering et al. (“*Eldering*”) in view of U.S. Publication No. 2005/0193410 to Eldering et al. (“*Eldering2*”), U.S. Publication No. 2002/0083443 to Eldering et al. (“*Eldering3*”), U.S. Publication No. 2001/0032128 to Kepecs (“*Kepecs*”) and U.S. Publication No. 2002/0176391 to Hermann et al. (“*Hermann*”). Of the rejected claims, claims 8, 20, 22, and 24 are independent claims. Applicant respectfully traverses these rejections and submits that a *prima facie* case of obviousness has not been established at least because the allegedly obvious combination would not include each and every one of the limitations recited in the rejected claims.

In the Office Action, the Examiner concedes that the allegedly obvious combination of *Eldering* and *Eldering2* fail to teach, suggest, or support “a Time to Live (TTL) inbuilt expiry mechanism or Ad Expiration Date.” Office Action at page 8. The Office Action then cites to *Eldering3* to attempt to remedy this deficiency of *Eldering* and *Eldering2*.

Applicant notes that although cited in the Office Action, an “Ad Expiration Date” was not recited in claim 8. To clarify the Time to Live expiry mechanism recited in the present claims, all of the independent claims of the present application have been amended to recite that the Time to Live expiry mechanism used in the broadcast claims is TTL “conforming to IP Network TTL protocol” known in the art.

As is known in the art, TTL is an existing protocol used worldwide for traffic management in Internet Protocol (IP) networks. Its main purpose is to ensure that networks remain free of clutter. TTL does this by assigning time values to the individual data packets which make up the network traffic. These values are designed and set in such a way as to ensure that undelivered data packets self destruct after a pre-set time period if they do not arrive

¹ Although the rejection does not list claims 24 or 25 as being rejected, it appears this is in error as pages 12-17 of the Office Action discuss the rejection of claims 20 and 24 and pages 24-25 discuss the rejection of claim 25.

successfully at their chosen destination. Hence the use of the phrase “Time To Live.” In general, every time a data packet is handled by a node in an IP network, the TTL value is decremented by one. Eventually, if the data packet remains undelivered, the TTL value will arrive at a value of zero. When a node sees that the TTL value of a data packet is zero, the node simply does not pass the data packet on, effectively removing the data packet from the network. A variety of time settings are available to the network manager to cover different situations but the technical and commercial management objective is always the same – to run a network as efficiently as possible. With the speed of present IP networks, the TTL of a packet is typically decremented to zero within minutes or even seconds if the packet is not delivered.

Applicant notes that although the TTL protocol is known in the art, the claimed invention uses the TTL protocol in a completely new manner that has never been done before, that of using TTL as a targeting mechanism. This is a total departure from any previous use of the protocol. Using this method TTL becomes either the sole or the main determinant of which audience members receive which piece of content or advertisement with only minimal disruption to the existing transmission process. That is, TTL as recited in the independent claims herein, is used to spoof the IP network so that it appears to the IP network that all of the advertisements are being played out to the whole audience even though in reality, different advertisements reach different sections of the audience based on the initial TTL values of the advertisements. Thus, all of the advertisements are transmitted by the broadcaster to all of the subscribers even though at least some of the advertisements are not intended to be played out at one or more of the subscribers.

Applicant notes that this spoofing allows present distribution, transmission, and playout systems to be able to be used while still allowing targeted advertising to be employed in an efficient and cost effective manner while saving bandwidth overhead.

Eldering3 is directed to an advertisement distribution system for television systems. *Eldering3* teaches using a queue at a subscriber set-top box to store a plurality of targeted advertisements to be displayed later on to the subscriber. When the number of advertisements in the queue goes below a certain number, more advertisements are downloaded to the queue to be displayed to the subscriber. All of the advertisements are intended to be viewed by the subscriber. As noted by the Office Action, *Eldering3* discloses an Ad Expiration Date associated with each advertisement that corresponds to a date beyond which the ad should no longer be displayed. See paragraph [0070]. The advertisement can be removed from the queue if the Ad

Expiration Date has passed. See paragraph [0085]. Thus, *Eldering3* discloses a date that is used to remove an advertisement from a stored queue. This is used because many advertisements expire after a few days. Applicant notes that using an Ad Expiration Date is completely different than using TTL as recited in the present claims, and certainly does not conform to IP Network TTL protocol. Applicant further notes that *Eldering3* does not disclose the use of TTL in any manner. Furthermore, one would not modify *Eldering3* to use standard TTL, as the expiration of a packet due to TTL occurs in seconds, not days, as would be required by *Eldering3*.

Kepecs discloses techniques for generating and making incentive offers and promotions to consumers. See paragraph [0008]. In particular, consumer information is collected, e.g., by using loyalty cards, to determine personal information and buying habits of the consumer. See paragraph [0035]. A marketing system is then used to determine offers to be presented to each consumer based on this information. See paragraph [0040]. An arbiter is used to withdraw old offers and select new offers to distribute to the consumer. See paragraph [0044]. The offers are distributed via different channels, such as web-based channels, direct mail channels, telephone channels, and others. See paragraph [0045]. *Kepecs* discloses that for web-based channels, emails can be used or the offer can be posted on a web page. See paragraphs [0046] and [0064].

The arbiter determines which offers to send to each consumer using the different channels and when to send or withdraw the offer. If it is determined that the consumer has not viewed or accessed or used the offer in a particular period of time (i.e., an expiration date) for a channel, the arbiter can withdraw the offer. See paragraph [0131]. The offer can then be withdrawn from the other channels even if the expiration dates of the other channels have not been reached. So, for instance, if it is determined that an offer sent to a consumer via direct mail (one channel) was not used in a particular number of days, the offer can also be withdrawn from email (another channel) or telephone (another channel).

Thus, similar to *Eldering3*, all of the advertisements in *Kepecs* are intended to be viewed by the subscriber. The difference is that in *Kepecs*, the *offers* are removed if not used by a certain date, regardless of whether the advertisements corresponding to the offers have been viewed. As such, *Kepecs* discloses a date or number of days used to withdraw an offer from a consumer. This clearly does not conform to IP Network TTL protocol. Applicant notes that similar to *Eldering3*, *Kepecs* does not disclose the use of TTL in any manner and one would not modify *Kepecs* to use standard TTL, as the expiration of a packet due to TTL occurs in seconds, not days, as would be required by *Kepecs*.

Hermann discloses a method and device for prompt and efficient service discovery in wireless networks. See Title. Wireless communication networks are comprised of various devices, such as computers, that communicate with each other wirelessly. Oftentimes the wireless network is separated into nodes. Each node communicates with the computers in the vicinity of the node and passes information to the other nodes. Being wireless, the various network components can be physically moved within the network and can pass between nodes. *Hermann* discloses a manner of periodically advertising service offerings so that the network components can advertise their services and determine what other services are close by. As this occurs, a complete service list is compiled that includes all of the services within the network.

Applicant notes that the term “advertising” as used in *Hermann* only refers to announcing the presence of a network service, such as printing, scanning, etc., to other devices in the network. That is, the term “advertising” and its derivatives used in *Hermann* has nothing to do with mass media advertisements such as those recited in the pending claims.

Hermann discloses that each node can periodically broadcast service lists of services within the node, and then listen for service lists from other nodes. Each service can include a service description that includes a time-to-live indicator, which is defined in *Hermann* as “a value representing a predetermined instant of time or time limit after its expiration the respective service is deemed to be unavailable.” Paragraph [0026]. Each node omits broadcasting of a particular service description if the “time-to-live will reach zero within the next few seconds.” Each node keeps track of the services that are offered by the local devices. If a node receives a service list from another node that omits a service description previously sent out by the first node or if the time-to-live indicator of the service description becomes too high, the node can notify the local device to schedule its next broadcast. See paragraph [0028]

Thus, *Hermann* discloses using a time-to-live indicator to determine when to re-send service descriptions to other nodes. However, *Hermann* does not disclose setting a TTL value approaching zero or transmitting when a TTL value approaches zero. In fact, *Hermann* specifically teaches that any service description that has a time-to-live value approaching zero is NOT to be transmitted. Furthermore, as noted above, *Hermann* has nothing to do with advertisements and, even if it did, *Hermann* also fails to disclose that the time-to-live indicator conforms to IP Network TTL protocol, as required by the claims.

To summarize, none of the cited references disclose, suggest, or reasonably support using a TTL expiry mechanism “conforming to IP Network TTL protocol,” as recited in amended

claims 8, 20, 22, and 24. Furthermore, *Hermann* fails to disclose setting a TTL value approaching zero or transmitting a message having such a TTL value, as also required by claims 8, 20, 22, and 24. Thus, Applicant respectfully submits that a *prima facie* case of obviousness has not been established regarding claims 8, 20, 22, and 24 at least because the allegedly obvious combination would not include all of the limitations recited in the rejected claims.

Applicant further submits that one skilled in the art would not have found it obvious to modify the allegedly obvious combination to include the missing limitations. For example, as noted above, most of the references use expiration dates to withdraw advertisements. Because TTL values can decrement to zero within minutes, the TTL values could not be used instead of the expiration dates or the cited art devices would become unable to perform their intended functions.

Claims 10, 12, 13, 17-19, 21, 23, and 25 depend from claims 8, 20, 22, and 24 and thus incorporate the limitations thereof. As such, applicant submits that claims 10, 12, 13, 17-19, 21, 23, and 25 are distinguished over the cited art for at least the same reasons as discussed above with regard to claims 8, 20, 22, and 24. Accordingly, Applicant respectfully requests that the obviousness rejections with respect to claims 10, 12, 13, 17-19, 21, 23, and 25 also be withdrawn.

2. Rejections based on further cited art

Paragraphs 6-10 on pages 25-30 of the Office Action reject claims 9, 11, and 14-16 as being obvious over the allegedly obvious combination of *Eldering*, *Eldering2*, *Eldering3*, *Kepecs*, and *Hermann*, discussed above, in view of further cited art. Specifically, claim 9 is rejected in view of U.S. Patent No. 6,286,140 to Ivanyi (“*Ivanyi*”); claim 11 is rejected in view of U.S. Publication No. 2002/0124253 to Eyer et al. (“*Eyer*”); claim 14 is rejected in view of U.S. Patent No. 6,698,020 to Zigmond (“*Zigmond*”); claim 15 is rejected in view of U.S. Publication No. 2002/0038455 to Srinivasan et al. (“*Srinivasan*”); and claim 16 is rejected in view of U.S. Publication No. 2004/0111741 to DePietro (“*DePietro*”).

Claims 9, 11, and 14-16 depend from claim 8 and thus incorporate the limitations thereof. As such, applicant submits that claims 9, 11, and 14-16 are distinguished over the cited art for at least the same reasons as discussed above with regard to claim 8. Accordingly, Applicant respectfully requests that the obviousness rejections with respect to claims 9, 11, and 14-16 also be withdrawn.

No other objections or rejections are set forth in the Office Action.

D. Objection based on Double Patenting

Paragraph 11 on page 30 of the Office Action maintains the double patenting objection set forth in a prior Office Action, that should claim 8 be found to be allowable, the Examiner will object to claim 20 as being a substantial duplicate thereof. Applicant reiterates that the objection will be addressed, if it is still an issue, once either claim 8 or claim 20 is found to be allowable. Applicant notes that deferring any discussion of the potential future objection does not indicate any admission by the Applicant, implicit or otherwise, concerning the merits of the objection.

E. New Claims

Applicant submits that new claims 26-31 are distinguished over the cited art. For example, new claim 26 recites “the network/consumer interface devices comprise set top boxes,” new claim 27 recites “the audience profiles are network or carrier hosted for subsequent deployment in playing out advertisements or personalized content on a selective basis in the IP network environment,” new claims 28-30 recite, “the programme-receiving audience profiles are based solely on audience viewing and/or listening data accumulated by the interrogator,” and new claim 31 recites the step of “creating program-receiving audience profiles based solely on audience viewing and/or listening data received by the interrogation of the set top boxes.” Applicant submits that none of the cited references, taken individually or combined, discloses these limitations.

Eldering, *Eldering2*, and *Eldering3* all disclose sending targeted advertisements to various subscribers based on information about the subscribers. Although specific viewing habits may be one of the factors used in one or more of these references to determine the targeted advertisements, none of the references disclose that audience profiles are created based solely on audience viewing data. Furthermore, much of the specific viewing information disclosed in the *Eldering* references includes data obtained from head ends, external and third party databases, etc. As such, the *Eldering* references also fail to disclose that the audience viewing data is received by interrogation of set top boxes.

In contrast, by creating audience profiles based solely on audience viewing data accumulated by the interrogator, embodiments of the present invention can be used as complete and self-contained, end to end systems that:

- i) generate and continuously update audience profiles for individual IP and/or MAC addresses based solely on the audience viewing data gathered by an interrogator;
- ii) identify target advertisements that correspond to the audience profiles;
- iii) broadcast the targeted advertisements in an IP network environment so that specific targeted advertisements will play out at individual IP and/or MAC addresses using TTL.

Furthermore, new claims 26-31 depend from independent claims 8, 20, 22, and 24 and thus incorporate the limitations thereof. As such, applicant submits that claims 26-31 are distinguished over the cited art for at least the same reasons as discussed above regarding claims 8, 20, 22, and 24.

F. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, applicant respectfully requests the Examiner's reconsideration and allowance of claims 8-31 as amended and presented herein.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Dated this 19th day of September, 2011.

Respectfully submitted,

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